

ATTACHMENT NO. 7

**GREEN REMEDIATION
AND
ENVIRONMENTALLY PREFERABLE PRACTICES**

Green Remediation

“Green Remediation” is the practice of considering all environmental effects of the implementation of a remedy and incorporating options to maximize the net environmental benefit of cleanup actions. In accordance with EPA’s strategic plan for compliance and environmental stewardship, the Agency strives for cleanup programs that use natural resources and energy efficiently, reduce negative impacts on the environment, minimize or eliminate pollution at its source, and reduce waste to the maximum extent possible. The EPA Region 2 Superfund program supports the adoption of “green site assessment and remediation,” which is defined as the practice of considering all environmental impacts of studies, selecting and implementing a given remedy, and incorporating strategies to maximize the net environmental benefit of cleanup actions (see <http://www.clu-in.org/greenremediation>).

To the extent practicable, the contractor shall explore and implement green remediation strategies and applications in the performance of the requirements of issued work to maximize sustainability, reduce energy and water usage, promote carbon neutrality, promote industrial materials reuse and recycling, and protect and preserve land resources. The contractor shall present green remediation options and approaches in its work plans (if applicable), provide cost analyses for these options in its work plan budgets, maintain records of “green-related” activities, and report this information to EPA in its monthly progress reports, or as requested by the EPA Project Officer.

The following guidance provides additional information regarding the implementation of “Green Remediation” practices:

- Page 3, “Green Remediation Practices”
- Page 4, “Environmentally Preferable Practices “Resource List”
- Page 5, “Deliverable Guidance”

- Federal Acquisition Regulation, Part 23, “Environment, Energy and Water Efficiency, Renewable Energy Technologies, Occupational Safety, and Drug-Free Workplace:” FAR Subparts 23.2, 23.4, 23.7, and 23.8

- Executive Order 13423, “Strengthening Federal Environmental, Energy, and Transportation Management” (January 2007) (see <http://www.epa.gov/oaintrnt/practices/eo13423.htm>)

“GREEN REMEDIATION” PRACTICES

This attachment describes EPA Region 2’s current basic guidelines for the contractor’s evaluation and implementation of “Green Remediation” practices in the performance of remedial/removal activities under work issued for this contract. In the performance of these remedial/removal activities, the contractor shall, to the extent practicable, explore and evaluate the use of:

Clean Air, through the use of cleaner technology and engines, cleaner fuel and cleaner diesel control technology on all diesel equipment used at sites. Clean diesel technologies are preferred, and alternative fuels such as biodiesel or natural gas-powered vehicles should also be considered. The contractor shall use alternative fuels, of at least a B20 blend or higher, on all on-site diesel equipment where these fuels are available within a reasonable distance from the Site. The contractor shall employ the most efficient emission control technology for reducing particulate matter (PM) emissions on non-road and on-road diesel powered equipment used at a site. The contractor shall use cleaner engines, which include non-road engines meeting Tier II or cleaner standards and on-road engines meeting 2004 “On-Highway Heavy Duty Engine Emissions Standards” or cleaner.

Renewable Energy Sources, when conducting work related to selection of a cleanup remedy, constructing a cleanup remedy, and upgrading or otherwise improving an existing cleanup remedy. These sources of renewable energy can include solar, wind, and biofuels. Examples of renewable energy technologies include photovoltaic panels, wind turbines, digesters, gasifiers, and microturbines. As part of evaluating renewable energy sources and technologies, the contractor shall perform cost analyses that compare the energy costs from renewable sources to costs from traditional electricity sources provided by local utilities, over the expected life of the cleanup remedy. The contractor shall also perform evaluations of the emissions prevented as a result of using renewable energy sources versus traditional energy sources provided by local utilities. Finally, the contractor shall evaluate the costs of purchasing “green power” from organizations that offer such green power within the state where the Site is located.

“GreenScapes,” as a cost-efficient and environmentally friendly solution for site landscaping. The “Greenscapes” concept has been designed to help preserve natural resources and prevent waste and pollution, and encourages practitioners to make more comprehensive decisions regarding waste generation and disposal and their associated cost and environmental effects on land, water, air, and energy use. “GreenScaping” encompasses a set of landscaping practices that can improve the health and appearance of the landscape at a site while protecting and preserving natural resources by reducing or eliminating the amount of waste materials involved in grounds-keeping and the amount of water, pesticides, fuels, oils, and other materials used in landscaping. The practices involved in “GreenScaping” to reduce landscaping costs include: 1) **Reducing** the production of waste to promote more efficient use of materials; 2) **Reusing** materials in order to prolong their useful life and delay their recycling and/or final disposal; 3) **Recycling** to minimize waste generation by recovering and reprocessing usable products that might otherwise be disposed of ; and 4) **Rebuying** by making purchases that meet project needs but have a better overall effect on the environment, such as biobased, recycled content, and other environmentally preferable elements. (For more information on “GreenScapes,” see [Resource Conservation | GreenScapes Program | US EPA](#))

Industrial Materials Reuse (IMR), involving reusing or recycling byproduct materials generated from industrial processes that can be used as substitutions for raw materials in the manufacture of consumer products, roads, bridges, buildings, and other construction projects. For example, nonhazardous industrial materials, such as coal ash, foundry sand, construction and demolition materials, slag, and gypsum, are valuable products of industrial processes that can be recycled in a variety of diverse applications. These materials have many of the same chemical and physical properties as the virgin materials they replace, and in many cases can even improve the quality of a product. Putting these commodities into productive use can save resources and energy and reduce greenhouse gas emissions. As such, the reuse and recycling of industrial materials is preferred when applicable, and may even present opportunities for revenue generation to offset remedial costs. (For more information on Industrial Materials Reuse, see www.epa.gov/osw/conserve/rrr/imr/index.htm.)

ENVIRONMENTALLY PREFERABLE PRACTICES “RESOURCE LIST”

Guidance on “green” buildings construction as well as operations and maintenance can be obtained at the following addresses: <http://www.epa.gov/greenbuilding/> and <http://www.wbdg.org>

Guidance on making both your business and your vehicle fleets “greener” can be obtained at the following address: <http://www.epa.gov/epp/pubs/products/fleets.htm>

Guidance on planning “green” meetings and utilizing “green” accommodations while on travel status can be obtained at the following address: <http://www.epa.gov/epp/pubs/meet/greenmeetings.htm>

Guidance on pollution prevention in the workplace can be obtained at the following address: <http://www.epa.gov/p2/pubs/industry.htm>

Guidance on improving the environmental performance of your business by developing an environmental management system can be obtained at the following address: www.epa.gov/ems/

Guidance on electronics procurement, reuse, and recycling can be obtained at the following addresses: <http://www.epa.gov/fec/> <http://www.epa.gov/epawaste/conservesmm/wastewise/index.htm> and <http://www2.epa.gov/recycle>

Guidance on doing Environmentally Preferable Purchasing can be reached at the following address: <http://www.epa.gov/epp/> and, more specifically, <http://www.epa.gov/epp/pubs/products/index.htm>

Guidance on complying with the “buy recycled” Comprehensive Procurements Guidelines or CPG for Federal Facilities and any entity (e.g. federal contractors) which uses Federal Funds to purchase the designated products can be found at www.epa.gov/cpg/. A list of products which must be purchased with recycled content in order to comply with the CPG, along with a list of product vendors can be found at this site as well.

Information on how to purchase electricity from renewable sources: <http://apps3.eere.energy.gov/greenpower/buying>

Information on how to get technical assistance for and public recognition of your business’s efforts to reduce your energy use and waste generation can be obtained at the following addresses: <http://www.energystar.gov/> www.epa.gov/wastewise

DELIVERABLE GUIDANCE

PREPARING THE ANNUAL REPORT

For all of those items checked on the cover page of the report, please provide statistics and details on a separate page (not to exceed 10 pages total). For example, 500 hotel reservations were made over the past period of performance and a total of 300 of those reservations were made at four (4) hotels that are involved in environmentally conscious programs.

For all of those items not checked on the cover page, please provide a justification.

Please address any steps your company has taken in the last year to improve its environmental performance. For example, a recent membership in an environmentally conscious group, any environmental awards, etc.

The contractor shall use the following page as the cover page of their report.

ENVIRONMENTAL REPORT

_____ (contractor's name) has utilized environmentally preferable practices from 1 October to 30 September as follows (check all that apply):

_____ Utilized environmentally conscious hotels. Reservations at these hotels have been made after confirming that the hotel is involved in an environmentally conscious program.

_____ Utilized methods to ensure the buildings are energy and water efficient and offer employees good indoor environmental quality.

_____ Utilized methods to ensure that office products/machines purchased for use under this contract are environmentally preferable. See EPA's Green Criteria for Office Supplies to see how we define "green" for various office supplies by going to <http://www.epa.gov/epp/pubs/products/offices.htm>, then clicking on EPA Overview, Green Office Supplies at EPA.

_____ Utilized methods to ensure that environmentally preferable products and services are procured.

_____ Utilized methods to "green" fleet acquisition and maintenance.

_____ Utilized methods to ensure that unusable computer equipment is recycled in an environmentally responsible manner.

_____ Utilized methods to reduce the amount of pollution emitted by the organization

_____ Other actions

_____ List all citations, warnings, judgements, fines issued by any Federal, State, or local authority for violations of any environmental law, regulation, ordinance, or code and briefly describe what action your company has taken or plans to take to come into compliance.